AUGMENT

An Integrated Office Information System

"Office automation" — what is it?

"Office automation" has almost as many meanings as there are people saying it these days. To us, though, it means the planned application of an integrated set of tools to improve productivity in office operations.

The office is perhaps the most heavily labor-intensive segment of the world of work today. According to Alan Purchase, senior industrial economist at SRI International, the annual investment in capital equipment per office worker is only $2000, compared with $25,000 per year spent on capital equipment for each manufacturing employee.

This does *not* necessarily mean that we should immediately try to spend more on our office workers—but it *does* mean that this is an area where there may well be room for improvement. Particularly in an era of steadily rising personnel costs and steadily dropping technology costs, office automation represents a way in which many organizations can hope to stem the rising tide of inflation.

Tymshare's approach to office automation

Integrated system

When we talk about integration, we mean the provision to the user of a wide range of capabilities in the same system, with a common command language that doesn't require extensive specialized training. Our system—AUGMENT—provides not only unsurpassed text-processing capabilities, but also graphics and photocomposition, personal information management and retrieval tools, powerful communication capabilities ("electronic mail"), spelling correction, calculation, table manipulation, sorting, and many other related capabilities—all in the same integrated system, with a common, easy-to-learn command set. In other words, it gives you all the capabilities of "text-processing" systems —and much more.

Integrated service

Tymshare is committed to providing *total service*. We offer a full range of services in computer-assisted office automation and document production systems: a time-shared computer service, a full range of terminals, applications consulting, contract programming service, training, computer and software leasing, and maintenance. Our aim is to provide you with whatever help you need to make your move to office automation as pleasant and productive as possible.

Designed for success

Our success depends on yours. So we'll be in there with you, helping to make sure that you're getting the most out of AUGMENT.

Our basic training program takes two days. We have yet to find anyone who

can't learn to use AUGMENT with this training and a little experience. Moreover, AUGMENT incorporates powerful learning aids and extensive feedback and prompting to help users expand their skills.

Every aspect of AUGMENT was designed to be used by people with no data processing or technological training or experience. The command language is simple and natural, using everyday English words and the familiar verb-noun syntax. And our display workstation incorporates a unique pointing device that makes selecting portions of a document easy and natural.

Finally, AUGMENT file structure is entirely logical. AUGMENT allows users to structure files—the computer equivalent of a document—in ways that precisely reflect the hierarchical structure of the document. This unique feature simplifies editing by allowing whole portions of a document (for example, chapters or subsections) to be moved, copied, transposed, deleted, or otherwise edited as logical units; it also allows us to provide features like fully automatic formatting, and greatly simplifies special-purpose formatting by the user.

Designed for today's needs

Fast-rising personnel costs make increasing productivity an immediate necessity. AUGMENT gives you the power you need to do just that.

Depending upon your application area, you can anticipate increasing productivity anywhere from 50% to 250%. As a general rule, percentage productivity increases are greatest (and easiest to measure) at the secretarial or clerical level; initial productivity increases among professional users may be lower in percentage terms, and more difficult to measure, but the value in dollars and in increased organizational effectiveness is high.

A stepping stone to the future

Today, one vendor—Tymshare—offers you the opportunity to experience the benefits of in-depth office automation. Our clients are learning today what this can mean—and this knowledge is helping them plan for the years ahead, when office automation will be a normal part of virtually every organization. For, in offices just as in factories, automation means change—change in work procedures, organizational structure, and staffing patterns, even in office design. This change is inevitable—and the sooner it begins, the better you can plan and control for it.

AUGMENT: System overview

AUGMENT provides a comprehensive set of computer-based aids for people who work with information. AUGMENT services, available nationwide on time-shared computer facilities, include text processing, electronic message communications, document production and photocomposition, graphics integrated with text, information storage, management and retrieval, and much more. These features reflect over 15 years of continuous design refinement and hundreds of thousands of

hours of online user experience. This brochure is an introduction to AUGMENT, describing how the system can improve your effectiveness.

AUGMENT: Services for people

People are the key element in the AUGMENT world. AUGMENT has been developed with just one aim: to improve the information-handling capabilities and effectiveness of people. People use it to coordinate projects, formulate and communicate decisions, collaborate, enter data, generate everything from letters to proposals, publish documents, and organize their daily work routines. It is employed by managers, writers, editors, clerks, typists, researchers, scientists, programmers, and secretaries. Geographically dispersed groups of co-workers use it for collaboration.

In short, AUGMENT facilities are used to help people generate, manipulate, store, retrieve, and distribute information. AUGMENT applications are as diverse as information needs and uses. All the AUGMENT services taken together provide a complete environment where information processing work is performed.

The following description of some AUGMENT application areas illustrates the wide range of services available.

Applications supported by AUGMENT

Text handling

A new dimension of editing power

AUGMENT includes an extremely versatile and powerful text-editing system. The advantages of AUGMENT editing over other automated editing systems are based on two unique structural features.

The AUGMENT statement. Two basic logical units of written English are the paragraph and heading. The paragraph and heading are the natural units of information for text manipulation because they represent ideas. Most computer editing systems ignore these logical divisions in prose, providing the user with a line-oriented editor which operates on sequential files. In such systems, the line is the basic unit. A line, however, is a totally arbitrary block of text, which does not correspond to any natural information unit: thus, editing systems that manipulate lines do so for the convenience of record storage devices, disregarding the convenience of the people working with the text.

AUGMENT is designed for the convenience of the people using it, not the machine. The basic unit for information storage is the AUGMENT statement, a logical block of text. It may be a paragraph, a diagram, a chapter heading, or a row in a table. Regardless of its function, the AUGMENT statement bears a one-to-one correspondence to the ideas expressed in the document.

The AUGMENT structured file. The structure of information is important to AUGMENT. Text files in AUGMENT are built up in outline form. For example,

chapter headings may form the highest level, subchapter headings a second level, etc. The AUGMENT user generally creates a file structure that corresponds to the natural hierarchical structure of his or her ideas. The structuring of AUGMENT files greatly simplifies paragraph or chapter manipulation. Editing operations that are considered "heavy" for most editors are routine for AUGMENT.

These structural features of AUGMENT result in greater editing power and flexibility, in a system so natural that anyone can easily learn to use it.

Flexible information retrieval and display

AUGMENT provides special features for online information retrieval and display. Users control the content and format of the information that they read. With the aid of built-in or user-supplied "filters," the AUGMENT user can easily select and browse through any online information.

Online browsing and retrieval. The outline structure of AUGMENT files or databases adds a new dimension to online retrieval and browsing. For example, simply looking at the headings or top two "levels" of a document gives the user a quick table of contents of the document. This level "clipping" and browsing operation may be repeated to locate information or to explore any document at any time.

Combining this unique AUGMENT "browsing" facility with more standard pattern-matching or logical retrieval functions provides the AUGMENT user with extensive retrieval and display facilities.

Multiple displays. Because AUGMENT is not based on lines of information, it is possible to use AUGMENT with a variety of display or hardcopy terminals. Moreover, the user can easily partition the screen into two or more independent display areas. Each area of this "split" screen may be independently controlled, permitting concurrent viewing and manipulation of several files.

This multiple display capability greatly simplifies the construction of new documents from sections of existing ones. Cross-file and multiple-file editing, which are often difficult and tedious with other editing systems, are simple with AUGMENT.

Extremely high security and integrity

Protection against loss. All files are protected from both accidental user errors and hardware failures. If the system "crashes," there are copies of work in progress on disks, and, if something is accidentally deleted, a user can always return to a previous copy (either online or from tape storage).

Privacy. Access to every individual file may be limited by the owner of the file to a particular individual or group. Where additional protection is desired, information may be encrypted so that only those with the "key" may ever read it. When files are shared, AUGMENT maintains a "signature" for each state-

ment that records the name of the person who made the last changes to the statement and the time the changes were made.

Automatic backup and archiving of information. Files are automatically archived onto offline tape if they are not accessed for a certain number of days. This provides automatic "house cleaning" for users. A record of all archived files is maintained, and a user can retrieve any archived file with a simple command. This means that information is never lost: it is available for retrieval and immediate use after months or even years.

Additional facilities

Online and offline information entry. Text and other information may be entered from online terminals or recorded on tape at the terminal for later entry into AUGMENT. Tapes can be read into the system to be converted into online form automatically.

Choice of display or hardcopy terminals. AUGMENT supports a wide range of standard, off-the-shelf display and teletypewriter terminals. The teletypewriters may be small portables or high-quality printers.

Forms production. Since forms play an important part in an organization's information processing, AUGMENT includes easy-to-use facilities for creating preprinted blank forms or forms that may be filled in online and printed.

Automatic spelling correction. Any AUGMENT file may be checked for misspellings; those words that appear in a 50,000-word dictionary are automatically corrected. Users can supplement the main dictionary with their own personal dictionaries.

Table manipulation. Tables are a part of many users' information-handling activities. AUGMENT provides capabilities for entering, organizing, totaling, and manipulating tables in user-chosen formats and multiple table relationships.

Sorting. AUGMENT provides a set of sorting capabilities that can be easily applied to a wide variety of user needs in document preparation and formatting or in analysis of data from many perspectives.

Calculating. AUGMENT enables the user to perform calculations on data typed into the calculator or data taken directly from files. Results can be entered directly from the calculator into the user's files. This capability is very useful and time saving in many applications.

Document production

Fully integrated system

Text and line graphics can be mixed and used together in the same document; they can also be "proofed" on a high-quality display terminal in the format that will appear in the final printing. Thus, the user is able to see the drawings and text in their respective positions on a page before photocomposition.

Choice of output devices

In addition to hardcopy terminals, the system can produce documents on high-speed printers and photocomposition devices.

Versatile, user-controlled formatting

The user selects and inserts formatting instructions to control page layout, justification, hyphenation, character size, font, and other features. The system can handle almost all of the most complex document-production requirements.

Automatic formatting

A library of standard formats is available that may be applied to a document, or users may design their own format for particular needs.

Document retrieval and control

Document retrieval and control facilities automatically index, catalog, and distribute documents which then can be searched by author, title, keyword, and accession number.

Communication and online collaboration

Message handling

Messages or documents may be sent to any number of recipients, in the same office or on the other side of the country. They may be sent to individuals or to a preselected distribution list (only the name of the list need be specified by the user). The sender may note that the item requires immediate action or is passed along for information only. Copies of the message or documents sent may be retained and stored by both the author and recipients. Delivery and notification take place within seconds.

Online system for recording, cataloging, and distributing information

Large documents or short messages may be sent to individuals, groups, or organizations, even if the recipients are not using the same computer, and recorded permanently in a special "dialogue record." This record provides for complete privacy or public availability.

All items contained in the dialogue record may be retrieved any time after original distribution using automatically generated keyword indices, accession numbers, and catalogs. Any item may include references to any other online item; readers can use these references to automatically retrieve related documents of interest to them.

This is an ideal medium for coordination or collaboration among geographically dispersed authors, groups, or organizations. In our experience, the savings in time and resources have been dramatic.

Online "linking" of terminals and teleconferencing

Everything that is viewed or printed at one terminal can appear simultaneously on another, permitting the instantaneous sharing of information. This powerful new communications medium

permits people at different locations to work together more easily, often reducing the need for travel.

Advanced design features

User profile

Each user group and each individual user has unique requirements, expectations, and preferences. AUGMENT adapts to these needs by maintaining a "profile" for each user. The profile "remembers" things, such as the degree of prompting the user wants and the way the command language should appear. This allows users to "customize" AUGMENT to meet their own use styles or levels of expertise.

Online help and question-answering facilities

Infrequent or novice users of any system experience difficulty in remembering how to do things. Recognizing this problem, we have built into AUGMENT a simple yet comprehensive online help facility. The user may type "?" at any time to see a list of the things that may be done at that moment. If this does not suffice, the user may then push a "HELP" key which automatically invokes an online question-answering system that explains all the AUGMENT commands, concepts important in understanding AUGMENT, how to perform certain tasks, and other related information. Even advanced users have questions about AUGMENT that this online instruction facility can answer.

Modular design, extensibility

AUGMENT contains many integrated command modules, called subsystems. Each subsystem serves a particular set of information-handling needs. This modular approach makes it easy to customize AUGMENT to fit the unique applications needs of user groups, and permits new facilities to be added very easily by our staff or by the users themselves. AUGMENT can also be connected to other computer systems to take advantage of existing specialized capabilities.

Designed for evolution

The rapidly evolving technologies of computing and communications are just beginning to be applied to office environments. Users may be concerned that it is too soon for them to begin using this technology, that their investments in people, organizational change, and equipment will become obsolete. Tymshare and the AUGMENT staff have more than ten years of successful experience in anticipating and packaging new technology. Users can be assured that evolution will continually build upon previous investments.

The AUGMENT service

AUGMENT is available through subscription to a service provided by Tymshare. Subscribers pay for a share of computing power, information storage, and computer network access, acquire appropriate workstation terminals, along with support services that include training, applications con-

sulting, documentation, programming support, and operator services. Many organizations currently subscribe to this service. A key person from each organization, called an "architect," works with our AUGMENT staff to plan the use of AUGMENT in his or her environment.

It is very important that an integrated office information system include user training and applications consulting by specialists. In our experience, personal attention is necessary for efficient assimilation of this new technology. Our staff members are experts at helping you enter the AUGMENT world and are always available for training and consultation.

For additional information

New Jersey
David A. Potter
163 Hamilton Avenue
Princeton, New Jersey 08540
(609) 924-5126

New York
Duane L. Stone
5986 Eire Boulevard West
Rome, New York 13440
(315) 337-8310

West Coast
James C. Norton
Elizabeth K. Michael
20705 Valley Green Drive
Cupertino, California 95014
(408) 446-6000

AUGMENT Catalog Number 44644